RECEIVED
CENTRAL FAX CENTER

MAR 0 3 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Eduardo Ramirez de Arellano	Group Art Unit: 3635
Appln. No.: 10/807,895	Examiner: YVONNE MICHELLE HORTON
Filed: March 24, 2004	
For: CONCRETE-BASED MATERIAL AND METHOD OF APPLYING THE SAME	

DECLARATION OF FELIPE J. ACOSTA

I, Felipe J. Acosta, resident of Mayagüez, Puerto Rico, and professor do hereby declare:

QUALIFICATIONS

1. I graduated from:

   a. The University of Puerto Rico at Mayagüez, B.S. in Civil Engineering in June of 1993;

   b. The Georgia Institute of Technology, M.S. in Civil Engineering with concentration in Structures in December of 1994; and

   c. The Georgia Institute of Technology, Ph.D. in Civil Engineering with concentration in Structures in December of 1999.

2. I have a Professional Engineering license in Puerto Rico (Certificate No. 19416).

3. I have worked in:

a. The National Institute of Standards and Technology, Gaithersburg, MD, Building and Fire Research Laboratory; and

b. The NASA Marshall Space Flight Center, Huntsville, AL, Materials, Processes and Manufacturing Laboratory.

4. I am currently a professor at the University of Puerto Rico at Mayagüez in the Department of Civil Engineering and Surveying. I teach Civil Engineering Materials, Structural Analysis I and II, Matrix Structural Analysis, Finite Element Analysis, and Mechanics of Composite Materials courses. I am also the director of the Civil Engineering Materials Laboratory.

5. My current research includes the use of recycled products for aggregate substitution in concrete mixes, the long-term mechanical behavior of concrete-filled fiber-reinforced polymeric tubes, experimental study of the earthquake vulnerability of typical reinforce concrete

residential houses, and uses of fiber-reinforced polymers for infrastructure applications.

6. I have also served as a guest lecturer for the Puerto Rico Transportation Technology Transfer Center in offering a two day seminar on the "Fundamentals of Portland Cement Concrete" and "Evaluation of Concrete Mixes."

BACKGROUND

4. I have reviewed the patent application submitted in this case including claims 1-28, which are pending as of the date of this declaration.

5. I have reviewed the current rejections of claims 1-11 made by the Examiner as set forth in the Office Action mailed January 4, 2006.

6. I have also reviewed the prior art references relied upon by the Examiner, including U.S. Patent No. 6,880,198, titled "Adjoining Surface Device for Working Viscous Materials," by Hazard (hereinafter "Hazard"), and U.S. Patent No. 6,833,188, titled "Lightweight Cementitious Composite Material," by Semmens (hereinafter "Semmens").

SUMMARY OF OPINION

7. It is my opinion that the Examiner misapprehends the actual teachings of the prior art, including Hazard and Semmens, when viewed as a whole.

8. In particular, it is my opinion that Hazard teaches the use of particle-free joint compound. As is common knowledge among those who apply joint compound, particles such as sand cause undesirable chatter during application with a trowel. For this reason, particles such as sand would not be used in the method taught by Hazard.

9. It is also my opinion that one of ordinary skill in the art of applying a concrete-based mortar would not look to the teachings of Hazard because it addresses an entirely different procedure: sealing the seam between adjacent sheets of dry wall with joint compound. Moreover, the prior art when viewed as a whole teaches away from the Examiner's combination of Hazard with Semmens. The composition taught by Semmens would not be used in the method taught by Hazard because it would cause chatter and would prevent the formation of a smooth, even joint.

HAZARD

9. Hazard is directed to a method of applying "viscous materials" such as "joint compound" to a seam between two sheets of dry wall. (Abstract & Col. 3, lines 1-11.)

10. Although Hazard discloses and claims a novel trowel for use in this process, Hazard implements standard methods of covering a seam between two sheets of dry wall. Specifically, as is well known in this art, Hazard teaches applying a layer of joint compound with a "taping knife." (Col. 3, lines 15-17.) The joint compound is left to dry for a period of time, typically overnight. If a thin layer is applied, it will harden to form a continuous layer that covers the seam. If, however, a relatively thick layer is applied, it will shrink and form surface concavities or cracks. (Col. 3, lines 23-26.) Thus, to form a smooth surface, another layer of joint compound can be applied after the first layer hardens and these steps are repeated until the surface is smooth and even.

11. Hazard expressly teaches that any particles on the surface of the dry wall must be removed because those particles will cause the taping knife to chatter as it is drawn along the surface. For this same reason, joint

compounds that are commercially available for this purpose are free of sand or like-sized particles that would cause a taping knife to "chatter" as it is drawn along a seam.

12. Unlike Hazard, applicant's claimed invention is directed to a different art, namely, forming an even surface using a layer of concrete-based mortar (not a layer of dry wall).

13. Unlike the methods taught by Hazard and generally known in the art of covering a seam between two sheets of dry wall, applicant's invention teaches scraping the surface with a rough trowel after the applied layer of mortar has hardened.

14. In direct contrast, Hazard teaches that the trowel is used while the joint compound is still "viscous" (not when it has hardened). (See ABSTRACT.) Again, the methods taught by Hazard are consistent with the methods generally applied to covering a seam between adjacent sheets of dry wall.

15. One reason that the teachings of Hazard contradict elements expressly recited in applicant's claims is that

Hazard is directed to an entirely different art. Hazard is directed to sealing a seam between adjacent sheets of dry wall. Such sheets of dry wall are typically used where a stud-wall is constructed and the sheets of dry wall are then attached to the dry wall.

16. In contrast, applicant's claimed invention is directed to applying a concrete-based mortar to an existing structure such as a building. It would not be possible to substitute concrete mortar for the dry wall because the concrete mortar (unlike drywall) requires a complete structure such as a building for support.

ONE OF SKILL IN THE ART WOULD NOT USE THE COMPOSITION TAUGHT BY SEMMENS WITH THE METHODS TAUGHT BY HAZARD

17. Hazard expressly teaches that sand or dust "must be removed" because they would cause the blade of the taping knife to "chatter[]" as it is drawn along the surface. (Col. 4, lines 5-14.) This chatter causes irregularities which necessitate additional work to fill. (Col. 4, lines 14-16.)

18. This teaching of Hazard is consistent with the methods commonly employed to cover a seam between two adjacent

sheets of dry wall. For this reason, joint compounds that are commercially available for this purpose are free of sand and dust or like-sized particles that would cause a taping knife to "chatter" as it is drawn along a seam.

19. Because Semmens teaches the inclusion of sand particles, I disagree with the Examiner's assertion that it would have been obvious to combine the composition taught by Semmens with the method taught by Hazard. Those skilled in the art would avoid the use of a joint compound with any significant amount of sand or like-sized particles because they cause unwanted "chatter."

EXAMINER'S RATIONAL

20. The Examiner asserts that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the steps of SEMMENS with the step of using a trowel, as taught by HAZARD, in order to improve adhesion of the concrete to the substrate while also preparing the surface for exterior coatings." (Office Action mailed January 4, 2006, Page 2.) This rational is simply wrong.

21. First, scraping the exterior of the surface of a concrete-based mortar would not "improve adhesion of the concrete to the substrate." In fact, if it had any affect on adhesion with the substrate, it would be to break the bond between the two - which is obviously undesireable.

22. Second, the purpose of scraping the exterior, as explained by applicant's disclosure, is to form a level surface. Whether the surface is perfectly level or is uneven and has waves would not affect the adhesion of paint or other "exterior coatings."

AFFIRMATION

23. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. §1001.

Respectfully Submitted,

Date: 2/2/06

By: Felipe J. Acosta